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PSYCHOLOGY AND SCIENTIFIC METHODS

IS THERE A COGNITIVE RELATION?

THE formal distinctions of epistemological theory are well worked out at the present time. All possible combinations of the terms of this discipline seem to have been discovered and championed. Each combination has points in its favor which awaken the sincere zeal of its champion. I wish to rise to a point of order. Have the postulates which lie back of these combinations been sufficiently examined? Is there, indeed, a cognitive relation either external or internal? I am of the opinion that there is no such relation. I shall now seek to justify and explain this opinion which seems, on the face of it, so revolutionary.

Theories of knowledge are, first of all, divisible into two classes, those which hold cognition to be somehow immediate and those which regard it as mediate. Theories of immediate cognition may, again, be divided into two subclasses. One subclass is idealistic and asserts that an internal relation exists between the object and the knower or subject. There are many slightly divergent forms of this position, but, in essentials, the above statement is not misleading. The second subclass is realistic and holds that an external relation exists between the object and the knower. By external is meant a relation which does not affect the object cognized. There are two current forms of this realistic subclass. The difference between them consists in their views of consciousness. The one considers it an *actus purus* externally related to the object; the other identifies it with the external relations supposed somehow to group objects selectively. Before we pass to a consideration of the mediate theories of cognition, let us ask ourselves what knowledge means for these realistic systems. Knowledge is the actual presence of reals. For the first view, consciousness in its relation to a thing accomplishes knowledge. The nature of the object is supposed to lie open to the mind and become subject to inspection. Things become transparent, as it were. Out of this peculiar relation, they are, for us, enveloped in darkness; in it, they stand in a glare of light.

Knowledge is a presenting, an introducing, an intuition. The second position is even more skeptical of the traditional views of mind than the first. The emphasis shifts from mind as a knower to the objects known. Knowledge is a grouping of these objects. The theory may be designated selective objectivism and cognition is the selection.

I wish now to call attention to a common characteristic of all these theories of immediate knowledge. *They assert a real cognitive relation, external or internal, between the knower and the object.* The only partial exception is the theory that tends to do away with the knower and to substitute a pan-objectivism. Even here, however, a real relation determines a grouping although it does not affect the nature of the objects grouped. Such epistemological hypotheses are statements of our actual experience in terms of logic —or, shall I say, in terms of mathematics? They are professed translations of natural realism. I suspect their correctness. What we actually have in cognition is an *attitude* towards objects considered real. Usually the attention is concentrated on the things and the attitude escapes notice. It lies in the background of consciousness. Even when it does attract attention, there is no experience of a cognitive relation between the individual and the thing. Awareness is simply an attitude towards things which is not supposed to affect them. Plans of action may come to mind and then the attitude becomes more complex; but always the objects retain their independence so far as awareness is concerned. It is, I believe, this character of cognition that makes realistic systems thinkable. *The cognitive attitude involves a dualism and suggests no relation, external or internal, to bridge it.* This is a description of natural realism as I see it. Cognition does not imply a cognitive relation.

Mediate theories of cognition are more complex than immediate theories. That fact is not necessarily in their favor. There are three important classes: the representative, the normative, and the pragmatic. Space forbids me to enter into the analysis which I have made of these. Suffice it to say that, in my opinion, they are all one-sided. But they emphasize some aspects of knowledge which must be borne in mind.

Pragmatism stresses the mediate character of the objects known. It points out their history, the reconstructions they have undergone. Knowledge is an achievement and "ideas" are instruments for this end. This doctrine is rightly considered by Moore to be idealistic in the strictest sense of that much-abused term. The mistake made by the pragmatist is to confuse the reflective attitude with the cognitive. He is so interested in the *use* of knowledge, its *criteria,* and the process of its achievement that he has overlooked the important stratifications and distinctions char-

acteristic of the cognitive attitude. We must thank the realist for his counterbalancing emphasis on them. The reflective attitude is, strictly speaking, precognitive.

The normative position brings us back from the *process* to the *act*. Its mistake is to misinterpret this act. It makes the object consciously depend on the "ought" of the subject. Here, again, there is a misreading of our actual experience. I repeat that the knower's attitude is one of acceptance of an object as being of such a character or as qualified in such a way. This attitude is modeled upon that of natural realism. It is dualistic and no cognitive relation is to be found in the experience.

The representative view is more complex. I shall not enter into the criticism which I must pass upon it. It is, however, the means of pointing out and stressing *the peculiar phenomenon of doubling that seems to telescope itself into the apparently simple act of cognition.* The distinction between thought, consciousness, idea, or concept and its object, which the human mind has been forced to postulate in order to account for error and for the mediate and personal character of the content of knowledge, as against the supposedly common and independent object known, is erected into a theory of knowledge. The real explanation of this distinction is entirely different. It results from a duplication of the cognitive object. This duplication is due to the conflict between the cognitive attitude and the facts which emphasize the personal character of the *objectivum.* For instance, the *objectivum* can be considered mental and dependent and, at the same time, physical and independent of mind as the cognitive attitude requires. It is assigned to two spheres of existence. The duplication of the cognitive object enables both motives to secure satisfaction. And they *must* both secure it. Hence even when we acknowledge the idealistic motives present in mediate theories of cognition, the structure of cognition remains dualistic.

It is interesting to hunt for indications of the twofold use of the cognitive object, as idea and as object, in philosophic literature. Unfortunately idealistic motives and outlook so dominated the thinkers who came nearest to its discovery that its significance was not grasped. A critical study of Hume (Treatise, I., III., 7), Kant ("Critique of Pure Reason," p. 483, Max Müller's translation) and James ("Psychology," Vol. II., p. 290) is illuminating from the present point of view. None of them does justice to the structure of cognition. Professor James substitutes a psychological explanation of cognition for the cognitive experience. He comes much nearer to a realization of the duplication in the article, "Does Consciousness Exist?", but makes it an affair merely of context. The tendency to emphasize the influence of feeling and interest in determining the

attitude and object of cognition is natural to a psychologist. The very term, belief, selected as descriptive of the cognitive attitude inevitably leads to an analysis of these subjective factors. It is but a short step from this to the consideration of the object as merely an "idea" and the meaning of the existence of the object its relation to the individual's mind. We noted, in the discussion given to the mediate theories of knowledge, a similar mistake on the part of the pragmatist. The latter seeks to neutralize this result by a denial that there are individual minds. The mediation which leads to cognition overshadows the cognitive structure and meanings and causes their neglect or misinterpretation. In the very interesting and suggestive note in his "Psychology"[1] James discusses the existential judgment and decides that the distinction between it and the attributive judgment is superficial. We might suggest that the reason is not that existential judgments are attributive, but that attributive judgments are implicitly existential. Let us examine his argument: " 'The candle exists' is equivalent to, 'The candle is over there.' And this 'over there' means real space, space related to other reals. The proposition amounts to saying, 'The candle is in the same sphere with other reals.' It affirms of the candle a very concrete predicate, namely, this relation to other particular concrete things." (So far we would agree with his analysis.) "*Their* real existence, as we shall later see, resolves itself into their peculiar relation to ourselves. Existence is thus no substantive quality when we predicate it of an object." This emphasis on the subjective is apparent in another place: "Reality means simply relation to our emotional and active life" (p. 295). He apparently agrees with Hume and Kant whom he quotes with approval. We must ask ourselves this question: "Is not James confusing two standpoints?" A thing is considered real *when* it does touch us vitally, but is the meaning of reality or existence that of a *relation* to ourselves? Existence is a meaning, unique in character, which does not affect the content of the object. It is not a determinant in the attributive sense. But it does qualify the whole object and give it a place with other objects of its own class. Things toward which we take this attitude are considered *as real as ourselves.* In this James is right when he says, "The *pons et origo* of all reality, whether from the absolute or the practical point of view is thus subjective, is ourselves" (p. 296). But the relations which we suppose ourselves to establish with such things are not cognitive. Cognition is a means towards the establishment of practical relations, but is not itself thought of as a real relation. We may suppose that cognition is impossible unless we are in causal relation with things by means of

[1] Vol. II., page 290.

our bodies, but cognition itself means a duality of equally real objects in which one takes a peculiar attitude towards the other. The cognitive relation, so-called, is either an intellectual, logical addition assumed because it is scandalous to think of two terms without a relation between them, or else the reading into the cognitive attitude of genetic relations in the precognitive stage, or else the shadow of the causal relation supposed to exist between us and the object. The first of these mistakes is made by the logician, the second by the psychologist, and the third by the scientist. All three are wrong. When we perceive an object or think of it, we do not have as an essential element a relation between the object and ourselves as knowers.

If this interpretation of the structure of cognition is correct, important consequences flow from it. In the first place idealism is robbed of the defense which has sheltered it for so long against the attacks of realism. Who has not felt the exasperating, baffling power of the dictum that we can not think an object except in relation with a subject. This turns out to be merely a false rendition of the analytic proposition: We can not think of an object unless we think of it. Otherwise, the very nature of cognition is to recognize the independence and reality of the object. A peculiar, non-natural relation, such as the supposed cognitive relation, would be the very denial of such independence. It seems, then, that the subject-object relation is a dogma which has been an article of faith in the philosophic world. The nearest approach, hitherto, to heresy has been the doctrine of external relations. But such a doctrine is half-hearted. We need the complete and final heresy; *there is no cognitive relation.*

Were we to accept the view that cognition is immediate and is the presence of an object to a knower, we would be forced to hold some form of naïve realism. Once deny the existence of a cognitive relation, if such is the view of knowledge, and no other course is open. The presence of objects to a knower would make no difference to them. He would be a spectator in whose field of vision they would come and go as people in a thronged street pass before the eyes of a stranger who looks out upon them from a hotel window. If cognition is the actual presence of reals to consciousness, idealism is doomed.

But we have been led to acknowledge that cognition is mediate, not immediate. The idealistic motives, which the precognitive stage of reflective consciousness supports, are unaffected by the denial of the cognitive relation. The history of the material, the mediate or constructive character of the object, the fact of error, all induced us to refuse to acknowledge that the object present in cognition exists

apart from the individual's mind. These facts, stressed so emphatically by modern psychology and by pragmatism of the Dewey type, are the true defense of idealism. To what do they lead? We have claimed that they lead to a realism broadened by the inclusion of these idealistic motives and *with a new conception of knowledge*. Let us examine this more critical and indirect type of realism. There are many questions which it must answer satisfactorily if it is to justify itself.

There is one problem which will occur to the mind of the reader almost immediately. In cognition does the mind transcend itself? Hitherto those who have denied the possibility of such a transcendence of experience have been idealists. How can the mind pass through the gulf of reality and touch things? To those who hold an organic view of mind, such a feat seems self-contradictory. Even revelation must be somehow immanent and adapted to the understanding of the seer. The reply must be that such a transcendence is both thinkable and unthinkable. It is thinkable so long as we give attention to the cognitive attitude and its meanings. It is unthinkable when mind is regarded as a realm of constructs and feelings, when it is regarded as consciousness in the non-cognitive, generic sense of that word. Real existents can not mix with mind, and knowledge is not a possession. Let us examine both aspects which have been so much confused.

Transcendence is thinkable when we pay regard to the cognitive attitude and its meanings, for here the mind is a limited entity opposed to that which is known as regards both content and existence. Of course the objects known could be called a part of experience, but the victory resulting would be merely verbal. It would consist in so stating the problem that it would be meaningless. We must admit, then, that the cognitive attitude makes the transcendence of mind thinkable. So long as the mind can be opposed to that which it knows in cognition the transcendence of mind is conceivable because it is seemingly a fact. We have, however, acknowledged that the cognitive object does not exist apart from mind even though it demands such an existence. This peculiar contradiction led, as we saw, to the phenomenon of the duplication of the cognitive object as idea and as object. As a result of this doubling, mind is enlarged to satisfy the idealistic motives and at the same time is opposed to the object as an independent existent. Cognition continues dualistic and, hence, realistic in its structure and meanings. The transcendence of mind is, however, unthinkable when mind is regarded as a personal system of ideas.

The answer that critical realism must logically make to this first problem is evident. Knowledge does not involve an actual trans-

cendence of the individual's mind, but it secures a reference beyond the individual's mind through the structure and meanings of the cognitive attitude.

What, then, is knowledge and what is the relation of the cognitive object in the individual's mind to the real whose existence cognition demands? Knowledge is an achievement of the individual's mind working in collaboration with other minds in a more or less conscious fashion. The methods and tests used are immanent and arise in large measure from the material. When a conclusion is arrived at it is objectified, *i. e.*, considered to exist as a quality, object, or relation in the sphere of existence presupposed by the nature of the domain investigated. When this domain is the physical world, the construction is considered entirely independent of the mind which has elaborated it. There are types of knowledge of the physical world which are functions of our interest and our point of view. The usual type results from a collaboration between things and man. We do not attempt to separate out our contribution. A landscape is beautiful. The *soft tones* and *harmonious outlines* are assigned to nature. Esthetic knowledge welcomes this collaboration. The scientific type is dominated by another ideal, to separate out and remove from things evidently subjective elements. In neither type is knowledge the actual presence of the *real* in the mind. In both, however, the reference is realistic.

We can turn now to the second part of the question under discussion. What is the relation of the cognitive object in the individual's mind to the real whose existence cognition demands? The answer is simple and presents a negative reply to the question propounded in the title of the article. In the case of physical reals there is no relation of a cognitive sort. The dualism of the cognitive attitude corresponds to an actual dualism. But a causal relation of however indirect a sort between the real and a mind is a presupposition of the possibility of knowledge. This fact is expressed by us in the causal relation assumed to connect percept and physical thing. This epistemological dualism is conceived by means of the duplication of the cognitive object into idea and thing between which no relation is supposed to exist. *The preposition, "of," in the phrase "idea of" is not symbolic of any actual relation, but of a distinction between two spheres with different characteristics.* These spheres are considered existentially distinct.

The second comprehensive question which should be asked of critical realism is the following: In what sense does it differ from the idealism of the critical, phenomenalistic sort, from an up-to-date Kantianism, for instance? The difference lies not in the content of knowledge, not necessarily even in the methods and criteria, which

must be those of science, but in the reference of cognition and in the existential meanings connected with it. Idealism has entirely misinterpreted the cognitive attitude. *The Kantian phenomenon is the real as we are compelled to think it.* Kant's interest in the process by which knowledge is secured, together with his leaning towards a Leibnitzian metaphysics, obscured for him the realistic import of cognition. The phenomenon is the thing-in-itself as we think it.

The third question concerns the relation of individual minds to each other. Common sense and psychology hold that minds do not intersect. Critical realism agrees with this natural view and makes it comprehensible. Minds are microcosms whose boundaries are of their own making. Relatively to each other they live in a fourth dimension. But, since knowledge does not involve the actual presence of the real, this pluralism is no barrier to mutual knowledge. What is required is actual causal influence and this is obtained through the body. Knowledge of other minds is, for critical realism, not a whit more mysterious than knowledge of physical reals. Were minds disembodied, there would, indeed, be trouble. As it is, our information is interpretative and comes through the channel of organic activities and language. The cognitive reference and its mechanism is the same as for physical things. The knowledge of physical reals is, however, a means as well as an end in itself. This is seen in imitation and in the actual handling of things, or in pointing towards them to gain a common reference and understanding.

There are many questions which could be raised and discussed in connection with this subject, besides those which I have attempted to answer here. But it is only the general epistemological scheme which I wish to present. I may state, however, that the import of this position for the categories is uppermost in my mind.

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"INVERSION"

CONSIDERING the contemptuous attitude of the average philosopher toward algebra of logic, it is amusing to see "logicians" quarreling about so simple a matter as "inversion." Whilst some maintain, and "prove," that it is unconditionally possible, Professor Hicks[1] as stoutly maintains, and "proves," that it is unconditionally impossible. The whole matter seems really a mere trifle; but the clearing up of the issue may be undertaken as a very simple exercise in the "calculus of classes."

[1] This JOURNAL, Vol. IX., pages 65 ff.

(*a*) *The Universal Affirmative.*—Question: From "all A's are B" can we infer that "some not-A's are not-B's? Yes; *provided* "not-B" exists in the particular Universe of Discourse.

For

$$(A + A')B' = B'$$

or

$$AB' + A'B' = B'$$

and as

$$AB' = 0 \text{ (by hypothesis)};$$

$$\therefore A'B' = B'$$

and if

$$B' \neq 0$$

we obtain

$$A'B' \neq 0,$$

which is the required proposition. Note 1. If the "particular proposition" is taken to imply the existence of subject and predicate, we ought, of course, to add the second condition that not-A also exists. Note 2. Whilst not-B occurs in the first part of the proof, it is not necessary to assume its existence until we wish to make the final conclusion, which follows necessarily from the joint assertion:

$$AB' = 0 \text{ [all } A\text{'s are } B\text{]}$$

and

$$B' \neq 0 \text{ [not-}B \text{ exists]}.$$

(*b*) *The Universal Negative.*—Question: From "no A is B" can we infer that "some not-A is B"? Yes; *provided* "B" exists in the particular Universe of Discourse.

For

$$(A + A')B = B$$

or

$$AB + A'B = B$$

and as

$$AB = 0 \text{ (by hypothesis)};$$

$$\therefore A'B = B$$

and if

$$B \neq 0$$

we obtain

$$A'B \neq 0,$$

which is the required proposition. Note 1. Same as above. Note 2.

Whilst "*B*" occurs in the proposition itself, its existence is not thereby required, *i. e.*, if "*B*" does not exist, the proposition is "true" whatever *A*. But it is necessary to presuppose the existence of *B* in order to reach the particular proposition of the conclusion. Note 3. The "absurdities of inversion" mentioned by Professor Hicks (p. 67) all violate the condition: $B \neq 0$.

Conclusion.—"Inversion" is a valid process, *provided* the condition "not-*B* exists" (for the universal affirmative), "*B* exists" (for the universal negative) is satisfied in the particular Universe of Discourse. "Inversionists" are wrong if they hold that this process is always valid; and Professor Hicks, who concludes that "we must discard the whole lot" (p. 70) is wrong also.

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SOCIETIES

THE NEW YORK BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

THE New York Branch of the American Psychological Association met in conjunction with the Section of Anthropology and Psychology of the New York Academy of Sciences on Monday, February 26. The following papers were read at the meeting in the evening at the American Museum of Natural History. Afternoon and evening sessions are being planned for the next meeting on April 15. All those interested are invited to attend the meetings. The secretary will be glad to receive titles of papers which members or others may desire to present at the April meeting.

The Influence of Narcotics on Physical and Mental Traits of Offspring: J. E. HICKMAN.

The purpose of the study was to learn if the use of narcostimulants (tea, coffee, tobacco, and alcohol) had any effect on the offspring. The research extended over a period of four years. It included 306 families with 2,560 children; 620 of this number were students of Murdoch Academy, Utah. These were carefully measured by medical experts and teachers to get their physical and mental status. The measurements and examinations included height, weight, eyes, ears, nose, throat, teeth, heart, lungs, stomach, spleen, liver, kidneys, and nervous condition. A record of the death-rate in the families was obtained as well as a record of the student's intellectual standing. The students were divided into eight classes, according to the kinds and quality of stimulants used by the parents.

The examination showed: first, that there was on an average a

very decided difference between the offspring of abstainers and those of users, even where tea or coffee was used by only one parent, for the offspring of the abstainers were superior in size, intellect, and bodily condition to those of the caffein parents; secondly, as the use of caffein was increased by the parents, from once to three and four times a day, a gradual decrease in height, weight, bodily condition, etc., of the offspring was manifest; thirdly, in families where not only tea and coffee were used, but also tobacco, the children were still more inferior mentally and physically, increasingly so with the increase of caffein drinks in connection with tobacco; fourthly, where alcohol was used with the above narcostimulants the lowering of the physical and mental status was very marked.

Comparing all the offspring of the narcostimulant parents with those from abstaining parents, the latter were found to be better in all the 22 measurements than the former. Some of the differences were very great, especially in weight, height, eyes, ears, physical health, and rate of mortality. There are over 100 per cent. more eye, ear, and physical defects in the offspring of narco-parents. 72 per cent. more children died in this than in the abstaining class. 79 per cent. of the narcostimulant families had lost one or more children, while only 49 per cent. of the abstaining class had lost any children. It was also shown that the death-rate of the parents in this latter class was 41 per cent. higher than in the former. The research also brought out the fact that it took the offspring of the narcostimulant parent eight tenths of a year longer to graduate from the grades. In the Academy they were on an average a year and seven months older than the students from the abstaining class.

Visual and Auditory Memory: A. E. CHRISLIP.

Experiments have been carried on in the psychological laboratory of Columbia University and elsewhere for the purpose of comparing visual and auditory memory. The points investigated in the first experiment were to determine: the number of repetitions required by each sense to reproduce in a certain order certain total series of like construction; the average number of characters of a series recalled in their proper order for each repetition of series of like construction for each sense; and to determine, if possible, the best material for testing the two senses.

The material used consisted of numerals, nonsense syllables, and words. Series composed of 12 and 16 characters of each material were used in testing both senses.

The result shows that when series of 12 numerals similarly constructed were presented to the two senses, that out of 26 cases, 20 are visual, 8 auditory, and 8 show no difference. In the case of the series

of 16 numerals, 19 visual, 4 auditory, and 13 show no difference. With 12 nonsense syllables there are 15 visual and 15 auditory, the rest showing no difference, but for 16 nonsense syllables, 25 visual, 7 auditory, and 4 show no difference. With the 12 words there are 14 visual, 10 auditory, and 12 no difference; with 16 numerals, 22 visual, 9 auditory, and 5 show no difference.

For each repetition of each series the result shows that in the memory tests for visual reproduction the greater average number is reproduced. The nonsense syllables were the best material, as they offered few combinations or devices for memorizing them.

Experiments, in which stories of 100 words each have been used to test the two senses, have been carried on for some time. The two senses have been tested for both immediate and delayed recall. In both the immediate and the delayed reproductions the visual has been better than the auditory. There is an experiment now in operation in which the method is somewhat different from that in the former experiments conducted with logical material. While the results are not all determined the indications are that the auditory may surpass the visual.

The Hereditary Transmission of Mental Traits: HENRY H. GODDARD.

It is not the purpose at the present time to present any results, but rather to make some suggestions and point out possible lines of research in the hereditary transmission of mental traits which may be of interest to psychologists.

In connection with our studies of the cause of mental deficiency at the training school at Vineland, much material has been accumulated showing the hereditary transmission of deficiency. In connection with these data many facts have come to hand which make it clear that not only deficiency, but many positive traits are directly transmitted. It is further suggested that psychology would gain valuable data and contributions to many of its problems from a study of this question of heredity. Indeed, it seems quite possible that many problems which are now so complex as to elude our powers of analogy would be easily analyzed if we were able to study the heredity problem and thus eliminate the hereditary factor. For example, if the goodness of memory depends, as Professor James said, upon the natural retentiveness of the brain tissue plus the logical association that the individual establishes, then we may reasonably expect that the condition of the brain tissue may be a quality that is transmitted and could be eliminated through the study of mode of transmission: or, in other words, we could determine to what extent the differences in memory are due to acquired factors.

It would seem equally possible that sensory conditions may be

traced through families just as peculiar eyes or eye sight, peculiar hearing, kinesthetic sensations, taste, or smell may be dependent upon organic conditions which may be found to be directly transmitted. The inborn habits or instincts are so bound up with acquired habits that it makes a very complex problem. It seems quite possible that a study of the instinctive activities of members of different generations might reveal to us a good deal about the nature of instinct and its transmission which would have very important bearings upon many of our problems of instinct and emotions. Even the study of such a complex problem as the inheritance of mental deficiency may possibly yield us some most important results.

It seems hardly likely that mental deficiency is due to the absence of any *one* characteristic, but of several, and that it may be pictured more as though normal mentality is the result of a hundred factors of which a person must have, say, seventy-five in order to have what is called normal mentality. Now the twenty-five that are lacking may be any twenty-five, perhaps, in the whole list and a tracing of the hereditary traits might lead us eventually to determine some things about the resulting mentality when the missing factors belong to different groups.

We shall work on these problems at Vineland as rapidly as possible, but they should be studied in normal people as well. It is perhaps true that it would not be possible to go back farther than the living generations, but even so, if careful studies and tests were made of the mental traits in living persons, it would be possible to get the records of two and sometimes three generations, and these records could then be kept and supplemented as the years go by and the newer generations come on. There would thus be laid the basis for most valuable studies later on.

The family histories, that we have secured in connection with our children at Vineland, suggest two or three interesting questions. For instance, there are several families in which alcoholism is strong in several generations. It is possible that we have in these families an unusual appetite for alcohol, which appetite has been transmitted. It looks as though it would not be impossible to eliminate to quite an extent the environmental factor, and so be able to determine whether this was hereditary or not. The same is true of the sexual life. A great many charts show very much sexual immorality: and possibly here we may have, in some cases at least, an unusual development of the sex instinct which has broken over all bounds of conventionality and has shown in different generations. It appears that all of these problems are not only worthy of study, but might yield

most important results. The speaker then showed graphic charts illustrating the family histories of a number of families. These charts showed the strong inheritance of feeble-mindedness and also illustrated the points made in regard to alcohol and sexuality. Considerable discussion followed.

H. L. HOLLINGWORTH,
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REVIEWS AND ABSTRACTS OF LITERATURE

Einleitung in die Philosophie. HANS CORNELIUS. Zweite Auflage. Leipzig und Berlin: Druck und Verlag von B. G. Teubner. 1911. Pp. xv + 376.

The philosophic individuality of Cornelius is the synthesis of two apparently antagonistic modes of thought: it has been molded by the same tendencies that shaped the anti-metaphysical methodology of Mach; but—as Cornelius rightly insists (pp. 211, 343)—it bears not less clearly the stamp of Kant's transcendental logic. By regarding the *Einleitung* from this point of view—as an independent philosophic complement of Mach's positivism—we shall probably best succeed in fixing its place in contemporaneous literature.

Perhaps no living thinker has proved so baffling to professional philosophers as Ernst Mach; perhaps no one has to such extent evoked what I should call "the metaphysician's fallacy." For Mach's method of procedure is the method of the natural scientist: he investigates his problems, one by one, according to the peculiar conditions of the case, without regard to whether his conclusions fit into a preconceived system. It is but necessary for the critic to assume that such a system exists and nothing is easier than to prove inconsistencies. What Mach attempts, however, is not a system of philosophy, but a methodology. Those critics have never comprehended the trend of Mach's thinking who attach an exaggerated, quasi-metaphysical meaning to his "sensations" or "elements." For Mach, his elements are not absolute, but provisional units. Nor does he suppose for a moment, as even so friendly a critic as Dr. Carus assumes, that the elements are immediate data of consciousness.[1] The cardinal point lies in the definition of scientific endeavor as a progressive determination of the functional relations of the elements. For this definition at once eliminates as utterly idle all such concepts of popular philosophy as the *ego*, the *Ding an sich*, or the principle of causality, and thus constitutes the core of Mach's anti-metaphysical positivism.

This methodological standpoint alone does not, of course, account for the origin of these popular concepts and Mach himself has indicated that it is obligatory to investigate *what* functional relations of the immediate data necessitated these methodologically no longer valuable concepts.[2]

[1] "Erkenntnis und Irrtum," 1906, pages 12, 16.

[2] *Loc. cit.*, page 13.

This genetic inquiry, it must be admitted, Mach has rather suggested than undertaken in detail from a uniform psychological point of view. But in still another direction it was possible to supplement Mach's investigations. Mach rightly repels the criticism that his psychology ignores the spontaneous activity of the human mind; indeed, his emphasis of the principle of the economy of thought suffices to refute the accusation. Nevertheless, the formal peculiarities of Mach's presentation lend some color to the charge, and his definitions of consciousness might be misinterpreted by prejudiced critics as a relapse into atomistic and passivistic psychologizing.

No such misinterpretation would be possible in the case of Cornelius. In the center of his philosophy stands Mach's principle of the economy of thought, which is, however, at once recognized as but another expression of the unity of consciousness. This principle explains at the same time the efforts of prescientific thought, the historical attempts at metaphysical unification, and the scientific striving for a view of the universe. The weakness of primitive and of metaphysical speculation lies in the fact that both make uncritical employment of traditional, popular ("naturalistic") concepts. The investigation of the legitimacy of these concepts, that is, of their origin and empirical meaning—such as the concepts of the persistent external world, of the reality of space and time, of causality, and of the ego—coincides with the coming of age of philosophy, its transition from dogmatism into empiricism, from the metaphysical into the epistemological stage. The naturalistic concepts lead to problems insoluble, not from any deficiency of the human intellect, but because of the erroneous assumptions involved in their formulation (*Scheinprobleme*). These stumbling-blocks can be removed only by a general inquiry into the mechanism of thought, by a natural history of human thought. Such an investigation will not aim at a purely destructive annihilation of the popular view of the world, but at a genetic understanding of that view and its clarification through the elimination of dogmatic elements. It must indeed be idealistic in the sense that it will proceed from the data of consciousness, which alone furnish the material for the structure and the totality of factors for the development of our world-view. Instead of denying, however, the existence of an objective world, it will merely attempt to show from what facts this concept is derived and thus determine its purely empirical significance. Cornelius's epistemology is thus emphatically psychologistic, not in the sense of resting on special *theories* of psychic phenomena, but in the sense in which all epistemology, tacitly or explicitly, must be psychologistic—in being based on an unprejudiced analysis and description of the immediate *facts* of consciousness (pp. 55 f.). And here what at once distinguishes Cornelius's psychology from an atomistic view is his emphatic and never-ceasing consideration of "*die Factoren des Zusammenhangs der Erfahrung*"—those factors which Höffding has conveniently included under the concept of the formal unity of consciousness.[3]

Cornelius begins his inquiry with a consideration of the psychological

[3] "Psychologie in Umrissen," page 186.

theories developed by the English thinkers of the seventeenth and eighteenth centuries. This naturally leads to a critique which merely expresses the general consensus of modern psychologists as to the failure of the association theory to account for the distinctively synthetic peculiarity of consciousness (pp. 196 ff.). It is the faulty psychology of the associationist school that resulted in the skeptical conclusions of their philosophy; for a theory which from the start limits our knowledge to isolated, momentary perceptions, impressions, and ideas, can not arrive at a positive theory of generally valid knowledge (p. 208).

The way to correct Hume's philosophy, therefore, is to correct the faults of his psychology. What we actually find in consciousness is not a mere sum of unrelated impressions and ideas out of which our experience shapes itself by virtue of the laws of association, but a unified whole. The point is to ascertain those facts which may be noted in any period of consciousness over and above the isolated elements of experience. The first synthetic factor described by Cornelius produces the recognition of a definite part of the stream of consciousness as marked off from its surroundings. A second factor connecting the otherwise isolated elements of experience is the symbolic function of memory images. By means of this function we transcend the limitations of the present moment and form an idea of a past experience *as* a past experience. A third factor enables us to classify every new sensation and complex of sensations, to recognize it as similar to previous experiences or complexes of experiences. These synthetic factors correspond to Kant's synthesis of "intuitive apprehension," "ideational reproduction," and "conceptual recognition," and in Kant's deduction of the categories of the understanding from the unity of consciousness Cornelius recognizes the historically first attempt in his own direction (p. 228).

Without the facts conditioned by the synthetic factors, a unified experience would be impossible. They determine the most general laws of conscious phenomena—among them the recollection and recognition of complexes. All our experiences are parts of complexes, and are remembered as parts of complexes. The law of association by contiguity is a special instance of the general law that every experience (*Erlebnis*) is merely part of a larger complex (p. 234). Similarly, the law of association by similarity is merely an expression of the same principle: we do not merely recollect a past experience similar to a present one, but also distinguish it as past by recalling at the same time the associated elements of the past complex. Both laws are not, as might be supposed on the basis of the old associationist school, alien forces regulating the course of conscious states, but laws immanent in all consciousness—consequences of those factors without which even the simplest case of unified consciousness would be inconceivable (pp. 207, 236 f.). Cornelius's account of these laws thus recalls that of Höffding, who similarly views association as but a special form of synthesis.[4]

Having enumerated the synthetic factors and their consequences,

[4] *Loc. cit.*, page 219.

Cornelius turns to the problem of the development of our concepts and judgments through these factors. In the assimilation of any new experience, we proceed in one of two ways. We either confine ourselves to classifying it as similar with certain previous experiences; or, we step beyond the mere classification of our experience and infer that it forms part of a complex of other experiences. The concepts formed in these ways Cornelius describes as falling into two distinct categories: perceptual concepts (*Wahrnehmungsbegriffe*) and experiential concepts (*Erfahrungsbegriffe*). To subsume a given portion of my visual field under the perceptual concept "whiteness" is one thing; to infer, beyond the immediate data, that whiteness represents "white chalk" constitutes the quite different step of subsuming under an experiential concept. The second process always takes place when we refer an impression to a persistent object.

For the explanation of the development of our knowledge Cornelius introduces the concept of "configuration," *Gestaltqualität*. By this he understands those characteristics which define a complex as a complex, that is, as different from a mere summation of its elements. The significance of this concept results from the fact that all the contents of our consciousness are parts of complexes and as such possess relation—fringes due to the configuration of their complexes. Among the concepts of complex-characteristics there are some relating to the modes of connection of our experiences in so far as these modes have their foundation in the unity of consciousness. As every one of our experiences must be connected with other experiences in these particular ways, these "relation-concepts" are applicable to all experience, and the judgments based on them are necessarily valid for all possible experience, regardless of the nature of the contents of the experiences. Borrowing Kant's term, Cornelius accordingly refers to these concepts as general modes of intuition. From these he eliminates Kant's spatial mode, first, because haptic and optic space are not immediately connected as parts of the same space and are not three-dimensional; secondly, because even in the field of sensation, sounds are arranged without spatial order, while the same applies to the relations of sensations to memory images, or of sensations, judgments, and feelings (pp. 252 f.). On the other hand, Cornelius includes among his modes of intuition not only time, but also the concepts of totality and partiality, unity and plurality, similarity and equality, constancy and mutability, as well as the direction of the changes.

This grouping suggests Ebbinghaus's treatment of the same intuitions as "the general attributes of sensations." Cornelius's discussion of this subject is probably the least satisfactory portion of his work. There is no serious attempt to justify the coordination of the other modes of intuition with that of time. It is perfectly true, for example, that the concept of similarity is applied to every possible experience in the sense that every experience is classified with reference to its resemblance to previous experiences—that the apprehension of similarity may be described as merely an expression of the unity of consciousness. But this immediate classi-

fication does not involve the construction of a continuum in which "*alles Mannigfaltige der Erscheinungen in gewissen Verhältnissen angeschauet wird.*" While time is, in Höffding's phrase, a typical individual idea, all the several times experienced being but parts of the same time, this does not apply at all to similarity. In a previous section (p. 245) Cornelius himself very clearly distinguishes between similarity as an immediate datum of consciousness and the abstract concept of similarity. The abstract concept of similarity naturally comprises as a concept all possible special cases of similarity; but of course it is not present in all conscious phenomena. The apprehension of similarity, on the other hand, is indeed coextensive with consciousness, but each such apprehension is distinct from every other, and consequently it is not justifiable to speak of similarity as a general mode of intuition. So far as the exclusion of space from the universal modes of intuition is concerned, Cornelius's reasons—quite irrespective of the justice of his conclusions—can not be considered satisfactory. In limiting psychological space to two dimensions, the author certainly finds himself in excellent company, but an indication that other views are held would have been in place in a treatment which allegedly rests on the facts rather than the special theories of psychology. The same criticism applies to the denial of spatial quality to sensations of tone. If a psychologist like Wundt insists that we can not hear tones without localization,[5] such opinions can not be disregarded without some critical discussion. It would have been better and fairer to explain on what psychological assumptions space could not be regarded as a universal mode, and under what assumptions it *must* be regarded in this light.

Having disposed of the purely classificatory perceptual concepts, Cornelius turns to the second category of experiential concepts. We continually complement the given perceptions by referring them to constant objects, that is, by associating them with characteristics not immediately given to us, which is equivalent to associating them with possible *future* experiences. It is the synthetic character of consciousness that leads us to view every experience as a member of a complex. Our expectations as to the experiences linked with a given experience are defined in some measure by the knowledge that it has hitherto appeared only in a certain definite series. If an initial member common to several known series is linked with final members varying with intermediate members, the latter are recognized as *conditions* of the final links and determine the nature of our expectations. The complementary activity which forms experiential concepts and explains isolated phenomena by connecting them with others is nothing but a *résumé* of our past experience and the expectation of future events in accordance with the past. The shorthand description of experience synonymous with the application of the principle of economy of thought is also identical with the formation of experiential concepts (p. 263). As the concept of a constant object implies nothing but the sum-total of its constant properties, what applies to the latter also applies

[5] "*Ohne irgendeine Lokalisation können wir auch Töne nicht hören.*" In "Was soll uns Kant nicht sein?" *Kleine Schriften*, 1910, I., page 160.

to the former: it expresses nothing but a series of definitely connected phenomena. To attribute reality to an object regardless of our perception of it simply means, as Hume failed to notice, that we connect our *varying* percepts with the *same* context of other percepts of the object. Kant correctly explained the belief in the reality of objects, but failed to note that in so doing he had already explained that constant which an earlier philosophy postulated as an unknowable noumenon. By supposing that objects, as complexes of phenomena, must be phenomena of something else—of an ever transcendent *Ding an sich*—Kant relapsed into naturalistic philosophy (p. 277). The opposition thus engendered between noumena and phenomena is quite illusory. The foregoing considerations immediately eliminate two supposed problems which have disturbed the philosophers of many ages as to the connection between subject and object (*"Vermittlungsprobleme"*). As the concept of reality is constructed solely out of our subjective data, the problem how we can recognize the objective world despite the subjective conditions of our knowledge disappears, because it is seen to invert the actual conditions of the case. On the other hand, there also disappears the impassable barrier between the physical and the psychical world which is inevitably encountered on the dogmatic assumption of objective reality. As Cornelius puts it: *"zu fragen, wie es komme, dass das Ding durch die Sinnesorgane auf unser Bewusstsein wirke, heisst also soviel als fragen, wie es komme, dass der gesetzmässige Zusammenhang unserer Sinneswahrnehmungen, welchen wir erfarhrungsmässig erkannt und in bestimmter Weise bezeichnet haben, wirklich eben dieser Zusammenhang unserer Wahrnehmungen ist"* (p. 280).

Cornelius fully recognizes that his investigation of the mechanism of concept-formation is purely psychological. Accordingly he now turns to the logical question of the validity of our concepts and judgments. After briefly sketching the psychology of the confirmation or repudiation of specific judgments, he arrives at the conclusion that judgments are of general validity only if the conditions defined in their formulation themselves determine quite generally the nature of the experiences to be observed under those conditions. This is true of analytical judgments; and also of the synthetic judgments resting on Cornelius's first category of concepts (*Wahrnehmungsbegriffe*), for the "knowledge of acquaintance" with any phenomenon that can be subsumed under a perceptual concept completely exhausts the possibilities of such a phenomenon. That spectral green resembles blue more closely than red is not an analytic judgment, because it does not follow from the definition of "green"; nevertheless it is a statement of universal validity. This is not true of the experiential judgments, of our "laws of nature," for the observation of innumerable past experiences does not seem to establish the validity of a prophecy as to future experiences of a similar character. Observations contrary to past experience disturb our mental equilibrium, which can be readjusted only by bringing both the ordinary observation and the deviations from it under a common law. This is done by correlating the usual experience with a formerly unnoticed condition, a change in which results in a dif-

ferent experience; in such cases we speak of the *cause* of the changed result. The principle of causality thus embodies merely the demand—indispensable for the unity of our experience—that all phenomena shall be arranged in constant empirical combinations. Accordingly, this principle has absolute validity and likewise defines the validity of our experiential laws: they are valid in so far as a hitherto unobserved cause does not produce an alteration. The category of causality is thus founded in the synthetic factors of consciousness (pp. 297–307).

There remains to be explained the naturalistic concept of the ego. As we distinguish from the varying perceptions of an object the *persistent* object of the external world, so we develop the concept of a permanent ego as opposed to the flux of conscious phenomena. As in the former case, Cornelius identifies the concept of a persistent reality with the formation of concepts of his second category. Any single state of consciousness is found in a definite connection with past states of consciousness, not immediately experienced, but in some measure determining it. These definite connections constitute the constant factors of our personality and may be described as "unconscious psychic facts," provided this phrase is taken merely as an abbreviated designation for definite, regular combinations of conscious phenomena, just as the concept of an objective thing is used merely to denote a definite connection of phenomena (pp. 314 f.).

The subject of the ego naturally leads the author to consider two related problems—the relation of mind and body and the knowledge of alien consciousness. On both these questions Cornelius develops views of extraordinary sanity. The solipsistic view can not be refuted, because the direct experience of alien conscious states is forever precluded. On the other hand, the association of certain outward manifestations with consciousness is in consonance with the scientific, as well as prescientific, application of the principle of the economy of thought. Further, it is not a metaphysical association, because the concept of alien consciousness, being patterned on our own, does not transcend experience (pp. 329–332). With regard to the relation of mind and body, Cornelius admits psychophysical parallelism for sensations; *"weil die physischen Vorgänge ihrem Begriffe nach nichts Anderes sind, als die gesetzmässigen Zusammenhänge, denen wir unsere Empfindungen einordnen"* (p. 319). But it is not true that the parallelism of ideation and of physiological processes is an empirical fact. An analysis of the psychophysiology of the reflex arc leads to the result that while central nervous paths are intermediaries of sensation and movement, there is nothing to prove that they correspond to the psychological act of association following the sensation. Pathological cases are likewise inadequate to prove the point. So far as brain disease is not definitely observed, the assumption that a psychic derangement is necessarily due to a cerebral anomaly is a pure dogma. But, even when an affection of the brain is definitely ascertained, it might be supposed that the disease conditions an alteration of the *sensation* rather than of the relevant associations. Which of these views represents the facts can not be determined, and accordingly the general question whether psycho-

physical parallelism holds for psychic facts beyond sensations and feelings remains unsolved. That the course of ideation depends on sensations and is thus indirectly conditioned by physiological processes, is readily admitted (pp. 326–328). The constant factors of psychic life are by definition independent of physiological alterations. This does not mean that the course of ideation is similarly independent, for those constant factors are precisely what the stream of ideas (*Vorstellungsablauf*) does not consist in. Accordingly, Cornelius infers from the independence of the constant factors that psychic life does not necessarily disappear with its physiological substratum. Inasmuch, on the other hand, as the constant factors are not themselves conscious experiences, but only conditions of such, it is equally inadmissible to infer the persistence of psychic life after death from the constancy of those factors. This argument is not particularly cogent. The constant factors are conditions, but they are not fully determining conditions, of consciousness. Psychic life involves a stream of ideas admittedly dependent—though only indirectly—on physiological conditions. The cessation of these conditions, it would seem, must necessarily result in a cessation of conscious phenomena. Indeed, if the constant "unconscious" factors are nothing but our experiences as to definite combinations of conscious phenomena, if consciousness is unthinkable without feelings, and the latter are admittedly dependent on physical conditions (p. 319), it is not at all clear how consciousness could survive death.

The "empiricist picture of the universe" sketched by Cornelius towards the close of his book (pp. 332–348) has already been sufficiently indicated in the preceding pages. The recognition of all our laws as merely abbreviated expressions for our experiences eliminates all the illusory problems based on the uncritical assumption of the naturalistic concepts. Thus, Kant's first antinomy is now found to rest on the naturalistic concept of the universe as an immediate datum of knowledge. If we conceive the world merely as a résumé of our experiences, its existence can not extend beyond the ordering of our experiences in accordance with the categories of our thinking, and instead of regarding it as infinite, we can state only that our increasing experience is nowhere hemmed in by any limits. This position eliminates the possibility of satisfying the metaphysical demand for a unification of the entire universe, for our intellectual machinery, the categories, are by virtue of their significance applicable only to the fractional components of our experience, not to a complete "unit" beyond experience. There is only one case in which we have scientific knowledge transcending a determination of parts—the knowledge of the fundamental unity of our consciousness which differs from all our fractional experiences in appearing not as a manifold, but as an immediately unified reality.

In the opening paragraphs of this article the philosophical position of Cornelius has already been indicated. The foregoing summary, it is to be hoped, has convinced the reader that we here have to deal with a solid attempt to grapple with philosophic concepts. Cornelius's attempt is not a

final solution of the philosophical problem from a positivistic standpoint, because that very standpoint precludes a final solution. For positivism demands a philosophy that shall deal with particular philosophic concepts and problems, as every science deals with *its* problems. No sane scientist denies that each of his problems admits of indefinitely more profound investigation, and in precisely the degree in which philosophers will attack their specific problems in the same spirit they will rehabilitate their scientific standing. With regard to Cornelius it has been indicated that several of his analyses do not seem to attain to the relative degree of profundity that might have been expected. But viewed as a whole, and more particularly as contrasted both with the reactionary sciolism now invading philosophical literature and with the crudities of much *soi-disant* positivism, his epistemology constitutes a landmark in the transition to a philosophy of the future that will be at once uncompromisingly radical and unassailably critical.

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Experiments in Educational Psychology. DANIEL STARCH. New York: The Macmillan Company. 1911. Pp. vii + 183.

Two questions arise in the consideration of this work. First, what is its value in relation to other books in the same field? Second, what is the value of this method of approach to the problems of education: does it bring new insight or does it complicate the situation?

Dr. Starch has brought together some valuable materials which must prove very stimulating to the teachers who are able to grasp them. He gives experimental methods for testing in concrete ways the facts of individual differences, the obstacles to learning which result from defective sensation channels, the place of mental imagery in the processes of learning and knowledge, the place of "trial and error" in experience, the progress of habit-building, the actualities in "formal discipline," the facts of "association," the nature of the apperceptive processes. the methods and laws of attention, the values of memory in learning, and the vital relationships of work and fatigue. All these things are real factors in the equipment of the teacher, and the teacher can not know too much about them. Any work which attempts to make clear these fundamental elements in mental development must be welcomed, and it must be said that Dr. Starch has organized his materials in such a way as to make them very interesting to the teacher of educational psychology, and, rightly interpreted, to the average teacher.

But there is another side to the matter, as indicated by the second question. Experimental education has been going its own way in the last few years, and a rather curious way it is, too. Education, as a whole process, is becoming more socially minded; we are being told that it is essentially a social movement, growing out of social pressures and leading into social programs, both for the child and the race. From this point of view "only social psychology is of primary importance for education." On the other hand, experimental education seeks to isolate certain mental

operations for special study. The very processes of isolation tend to exclude the social element; but this elimination of the social automatically eliminates the ideational, also, since the ideational element arose in experience to mediate the social world and has no reason for existence when the social is gone. The net result of these exclusions in the experimental laboratory is the reduction of the learner to a piece of psychophysical machinery, and the interest of the experimenter centers in the reactions which the machine makes to a series of organized stimuli. The very make-up of Dr. Starch's book is determined by these demands. The "observer" must get no hints as to what is coming next: hence, many pages must be left blank, etc. Now, when the book is read in this light it is seen that provision is made, not for the study of those subjects noted above, but for the study of the following items: the individual differences of nervous systems, characteristic defects of sensation mechanisms, persistence of sense impressions, constructive processes on the higher and lower neural levels, the spread of constructive cerebral processes beyond their local field, the development of intracerebral relations, cerebral reconstructions, the persistence of neural energies and cerebral processes, and the rise, fall, and renewal of neural energies. That is to say, experimental education, as represented by this work, devotes itself to the study of a mechanism under conditions that exclude the presence of the most persistent stimuli, and therefore, the most characteristic reactions, of the actual school situations. A very serious problem is thus raised as to how the student can get these abstract results back into the social world where the actual processes of education go on.

Yet there is no fundamental contradiction between this work of the educational experimentalist and that social psychology of the concrete educational processes demanded by the rising tide of educational inquiry. Social psychology seeks experimental determinations of processes of development and interaction that lie within the fields of social action. And the social psychology of education needs just such studies as this we are considering. But does this laboratory education feel the need of a social setting for its real experiments? And can this laboratory work find its way back into the concrete educational situation? This book deals with problems that have arisen in the life of the school; the problems have been abstracted for special investigation: should not a chapter have been added to the book showing how these problems have arisen, and may arise, and how the results can be reinterpreted into the actual educational situations, where they can be of real value to the teacher? If a laboratory manual is to have proper use, even by the average laboratory instructor, it must clearly relate itself to the concrete problems out of which it arose and into which its results must go.

We need more work of this kind: but the experimentalist in the field of education must be ready to relate his problems and his results to the demands of the concrete educational processes as these are being interpreted by social psychology if his work is to have fundamental value for education.

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The American Philosophy Pragmatism. A. v. C. P. HUIZINGA. Boston: Sherman, French, & Co. Pp. v + 64.

This is a curiously written and poorly arranged attack upon a current mode of thought. Disentangled, it consists of this fourfold root: a small amount of information upon pragmatism as an American philosophy; a large mass of quotations from the enemy; several popular diatribes from a conservative point of view; and a few suggestive notes as to the relations of this latter-day movement to German idealism.

The assumption that pragmatism is *the* American philosophy comes in the middle, not the beginning of this sketch. "Professor" McCosh is said to have wished for a specific American, a national philosophy, but little anticipated the speedy realization of his desire in the specifically American *Weltanschauung* pragmatism. This is an error. What President McCosh wished, and the wish was father to the thought, was that his own natural realism, the Scotch common sense, might become the system of his adopted country. The rest of this sketch is filled with like misinformation. Thus it is alleged that pragmatism neglects the theory of knowledge and of reality; that as the apotheosis of the evolutionary dogma it has irreverence for its mainspring; that as a doctrine of hustling activity it is opposed to "contemplating" wisdom, and so falls in with Kipling's description of the predominant American trait of disregard for knowledge and law in the face of the supreme commands of "the instant need of things." These diatribes have their extreme form in a preface which claims that the point at issue is a denial of the supernatural, a discarding of the notion of being, a revolt against all tradition, authority, and unity, and all regulative norms and law.

Such is poor pragmatism from the negative side. What it is positively its opponent finds hard to say. In one place, he holds that it argues pluralism or polytheism "against our monotheistic belief." In another, that it is a scheme of pantheistic, evolutionary monism. This brings us to the fourth and only valuable point in the essay—the attempt to connect pragmatism with German idealism of a previous generation. By his frequent use of good German and faulty French the author discloses a certain Teutonic facility in his exposition of "this pantheism of an all-pervading *Zielstrebigkeit.*" Pragmatism, he suggests, in a blind sort of way, is akin to Fichte's teaching that things in themselves are as we have to make them, "that the ego limits itself in order to overcome the limitation, that the theoretical is only in behalf of the practical"; in short, he teaches the duty of unremitting exertion, and this duty, it is easily seen, appeals to people who have work to do. In connecting the *Vocation of Man* with the demand for the strenuous life Huizinga has hit on a probable connecting link between primitive pragmatism and the St. Louis School. He does not say so definitely, but it may well be that the revolutionary refugees of '48 through their personal beliefs and through such a German-American organ as the *Journal of Speculative Philosophy,* prepared the way for the rapid spread of pragmatism in the middle west. This is a suggestion as to what the writer might have done in tracing

possible sources of the movement. However, he makes no such exact connection, but leaves us with only vague analogies between the Yankee "Let us still be up and doing" and the theme of Faust that "the ever-active, striving soul works out his own salvation."

Although he is able to point out these German-American affinities, the author has no sympathy with them. His conclusion appears to be that pragmatism is a scheme of pantheistic, evolutionary monism, totally antipathetic to readers of the *Bibliotheca Sacra* for whom this essay was written. Indeed, pragmatism seems to fulfill the boast that the dangerous movement of Ritschlian valuation-theology would carry the Anglo-Saxon world in one generation. And yet in vindication of the old school, and against the charge that it is no longer adequate to the present needs, he contends that it *is* adequate, since it affirms that thought not only reveals reality, but is a unique mode of reality itself. In this conclusion the anti-pragmatist has reached the third stage portrayed by James—first scorn, then tolerance, lastly adjustment of the old to the new way of thinking.

We might dismiss this sketch by saying that it is an essay with wide margins but a narrow outlook. It contains, however, several excellences. One is in pointing out the affinity between pragmatism and the Ritschlian motto "Religion without Metaphysics"; another is in showing that pragmatism is an epistemological result of the doctrine of evolution; a third is in coining certain phrases which might be used as effective watchwords by radical pragmatists. Such phrases are "being is disclosed in the doing"; and "We are no more searching for truth, we are engaged in making it."

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JOURNALS AND NEW BOOKS

RIVISTA DI FILOSOFIA NEO-SCOLASTICA. October, 1911. *Lo studio sperimentale del pensiero e della volontà* (pp. 494–504): A. GEMELLI. – From a series of experiments performed by Bühler and other German psychologists, there can be demonstrated the autonomy of psychical activity and the essential distinction between thought and phantasm. *Essenza ed esistenza* (pp. 505–525): G. MATTIUSSI, S.J. – In the divine nature, essence and existence are identical; in finite beings, on the other hand, there is a real distinction between essence and existence. *Sigieri di Brabante nella Divina Commedia e le fonti della filosofia di Dante* (pp. 526–545): BRUNO NARDI. – The Dantean cosmology appears as a fusion of Avicenna's peripateticism with the cosmological ideas of the Augustinian school. *Note e Discussioni. Tribuna libera. Analisi d'opere.* A. Pastore, *Dell' essere e del conoscere:* A. CUSCHIERI. Michotte-Prüm, *Etude expérimentale sur le choix volontaire et ses antécédents immédiats:* ARCANGELO GALLI. G. Amendola, *La volontà e il bene:* G. TREDICI. G. Allievo, *G. G. Rousseau filosofo e pedagogista:* M. BRUSADELLI. De Dominicis, *Scienza comparata dell' educazione:* L. VENTURA. *Note bibliografiche. Sommario ideologico delle opere e delle riviste di filosofia.*

REVUE NÉO-SCOLASTIQUE DE PHILOSOPHIE. November, 1911. *Les perplexités du Philèbe* (pp. 457–478): ANDRÉ BREMOND. – Plato's dialogues, although great and inspiring, often lack in logical sequence and force of reasoning. *Le libre arbitre et les lois sociologiques d'après Quetelet* (pp. 479–515): J. LOTTIN. – Quetelet never defended the thesis of the determinism of the individual will; he believed in social determinism, which he carefully distingushed from fatalism. *Le traité "De esse et essentia" de Thierry de Fribourg* (pp. 516–536): DR. KREBS. – Text of Thierry's "De Esse et Essentia," published for the first time from a manuscript of the Vatican library. *Le néo-dogmatisme* (pp. 537–563): L. DU ROUSSAUX. – The type of neo-dogmatism born among certain Scholastics from the influence of Kantian criticism is decidedly inferior to the old, traditional dogmatism. *A propos des conditions philosophiques de l'évolution* (pp. 564–588): A. BOUYSSONIE. – A criticism of Le Guichaoua's theory of causality in evolution. Le Guichaoua's answer. *Comptes rendus.* H. de Jongh, *L'ancienne faculté de théologie de Louvain au premier siècle de son existence:* J. LOTTIN. A. Fouillée, *La pensée et les nouvelles écoles antiintellectualistes:* J. HENRY. G. Surbled, *La Volonté:* F. PALHORIÈS. J. Mausbach, *Grundlage und Ausbildung des Charakters nach dem hl. Thomas von Aquin:* F. PALHORIÈS. Zaragüeta, *El problema del alma ante la psicología experimental:* A. F. E. Boyd Barrett, S.J., *Motive-force and Motivation-tracks, a Research in Will Psychology:* A. F. O. Habert, *La religion de la Grèce antique:* A. MANSION. L. Jeudon, *La morale de l'honneur:* A. MOUSTIERS. *Sommaire idéologique des ouvrages et revues de philosophie.*

THE PHILOSOPHICAL REVIEW. November, 1911. *German Philosophy in 1910* (pp. 589–609): OSCAR EWALD. – The development of German philosophy in 1910 represents no divergence from the lines which it has followed during recent years. The era of critical idealism is still in the ascendent. The chief writers are mentioned, their principal works cited, with brief accounts of and comments on their contents. *The Externality of Relations* (pp. 610–621): THEODORE DE LAGUNA. – The conflict as to whether relations are essential, as held by the neo-Hegelians, or external, as held by the realists, is a conflict, it is asserted, calling for analysis rather than argument. Externality may mean that all relations are external to the nature of all relatives, a doctrine claimed to be false; or that relations are external to qualities, a doctrine dependent upon the distinction between a quality and a relation; or that relations are external to each other. The word "essential" is analyzed with reference to its various meanings. *The Psychology of Punitive Justice* (pp. 622–635): WILLIAM K. WRIGHT. – "Of the three theories regarding punishment, the retributive theory, the deterrent theory, and the reformatory theory, public opinion at the present time is probably most correctly interpreted by the deterrent theory, which, as we have seen, is the resentment instinct interpreted and rationalized." *Reviews of Books* (pp. 636–657). Konstantin Oesterreich, *Die Phänomenologie des Ich in ihren Grundproblemen:* MARY

WHITON CALKINS. Johannes Rehmke, *Philosophie als Grundwissenschaft:* W. H. SHELDON. Warner Fite, *Individualism:* ELLEN BLISS TALBOT. Leslie J. Walker, *Theories of Knowledge:* H. W. WRIGHT. *Notices of New Books. Summaries of Articles. Notes.*

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Engert, Horst. Teleologie und Kausalität. Heidelberg: Carl Winters Universitätsbuchhandlung. 1911. Pp. 50.

Flournoy, Thomas. La Philosophie de William James. Saint-Blaise: Foyer Solidariste. 1911. Pp. 219. 2.50F.

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Heimsoeth, Heinz. Die Methode der Erkenntnis bei Descartes und Leibniz. Erste Hälfte: Historische Einleitung. Descartes Methode der klaren und deutlichen Erkenntnis. Giessen: Verlag von Alfred Töpelmann. 1912. Pp. 192. 5.50M.

Horne, Herman Harrell. Free Will and Human Responsibility. New York: The Macmillan Company. 1912. Pp. xvi + 197. $1.50.

Jerusalem, Wilhelm. Die Aufgaben des Lehrers an Hoheren Schulen. Wien und Leipzig: Wilhelm Braumuller. 1912. Pp. xii + 392.

Kessler, Dr. Kurt. Rudolf Euckens Bedeutung für das moderne Christentum. Bunzlau: Verlag von G. Kreuschmer. 1912. Pp. 68. 1.50M.

Levinstein, Gustav. Philosophische Betrachtungen. Berlin: Leonard Simion. 1912. Pp. 99. 1.80M.

NOTES AND NEWS

THE following delegates have been appointed to represent the American Philosophical Society on the following occasions: Vice-president William B. Scott, of Princeton, to represent the society at the two hundred and fiftieth anniversary of the foundation of the Royal Society in July next; Professors Paul Haupt, of Baltimore, E. Washburn Hopkins, of New Haven, Morris Jastrow, Jr., of Philadelphia, and A. V. Williams Jackson, of New York, as delegates to the eleventh International Congress of Orientalists, to be held at Athens on April 7 to 14; Dr. Franz Boas, of New York, a delegate to the eighteenth International Congress of Americanists, to be held in London from May 27 to June 1. At the centenary of the Academy of Natural Sciences on March 19 to 21 the

society was officially represented by Professor Henry F. Osborn, of New York, Dr. Charles D. Walcott, of Washington, Mr. Samuel Vauclain, of Philadelphia, Professor William B. Clark, of Baltimore, and Dr. Henry H. Donaldson, of Philadelphia.

THE Princeton University Press announces the publication of President Witherspoon's Lectures on Moral Philosophy, edited by Mr. V. L. Collins, of Princeton University. This reprint is the first in the series of "Early American Philosophers," planned by the American Philosophical Association, and to be published under its auspices by the universities with which the respective authors, whose works are to be reprinted, were most intimately connected. The text is that of the first edition, that of 1800, which the editor has collated not only with the editions of 1810 and 1822 but also with manuscript versions of the lectures written in 1772, 1782 and 1795, and significant variants have been noted. The Introduction is a study of Dr. Witherspoon's many-sided character; and a check-list of his published writings has been supplied. The frontispiece is a reproduction of the portrait of Dr. Witherspoon by Charles Wilson Peale. The edition is limited to 500 copies.

THE New York Branch of the American Psychological Association met in conjunction with the Section of Anthropology and Psychology of the New York Academy of Sciences on Monday, April 22. At the afternoon session, which met at Columbia University, the following papers were read: "Sex Differences in Incidental Memory," Mr. G. C. Myers; "Studies in Recognition Memory," Dr. E. K. Strong; "Individual Differences in the Interests of Children," Miss Gertrude M. Kuper; "Experiments with the Hampton Court Maze," Professor H. A. Ruger. The papers read at the evening session at the American Museum of Natural History were as follows: "Relation of Interference to Adaptability," Mr. A. J. Culler; "The Optimal Distribution of Time and the Relation of Length of Material to Time Taken for Learning," Mr. D. O. Lyon; "The Age of Walking and Talking in Relation to General Intelligence," Mr. C. D. Mead; "Practise in the Case of Children of School Age," Mr. T. H. Kirby.

MRS. CHRISTINE LADD FRANKLIN has given three university lectures on color vision before the department of psychology of Columbia University, as follows: March 25, "The Theory of Color Theories—The Color Triangle and the Color Square—The Facts Inconsistent with the Hering Theory"; March 27, "The Young-Helmholtz Theory in its Latest Form —its Indispensableness and its Inadequacy"; March 29, "The Recent Views on Color—Brunner, Pauli, Bernstein, Schenck—The Development Theory of Color."

THE Philosophical Institute of Canterbury, New Zealand, which came into existence on August 30, 1862, will celebrate its jubilee this year. It is proposed to mark the occasion by holding a gathering in Christchurch.

DR. DURANT DRAKE, of the University of Illinois, has accepted the position of associate professor of ethics and the philosophy of religion at Wesleyan (Middletown, Conn.) University.